

CLAIMS

1. A method for producing a vaccine containing an immunogenic determinant, comprising the steps of:
- 5 a) exposing extra-cellular pathogenic organisms to stress-inducing stimuli which would induce the production of SP/antigenic peptide fragment complexes;
- 10 b) extracting the endogenous stress-induced products from the treated organisms; and
- c) using the extracted products as the immunogenic determinant in the preparation of the vaccine composition.
- 15 2. A method as claimed in claim 1, characterised in that the active ingredient of the immunogenic determinant consists predominantly of one or more shock protein/antigenic peptide fragment complexes.
- 20 3. A method as claimed in either of claims 1 or 2, characterised in that the stress-inducing stimulus is heat.
4. A method as claimed in claim 3, characterised in that
- 25 the pathogenic organism is heated to from 5 to 8°C above the normal temperature for cultivation of the organisation.
5. A method as claimed in any one of the preceding
- 30 claims, characterised in that the pathogenic organism is an extra-cellular procaryotic or protozoan

species.

6. A method as claimed in any one of the preceding claims, characterised in that the pathogenic organism is a bacterial, protozoal or fungal species.

7. A method as claimed in any one of the preceding claims, characterised in that the immunogenic determinant is a mixture of heat shock protein/antigenic peptide fragment complexes.

8. A method as claimed in any one of the preceding claims, characterised in that the extra-cellular pathogenic organism has been modified to induce or enhance the induction of the synthesis of stress proteins.

9. A method as claimed in any one of the preceding claims, characterised in that it is carried out in vitro.

10.A method as claimed in claim 1, substantially as hereinbefore described in any one of the Examples.

11.A vaccine composition containing an immunogenic determinant, characterised in that the immunogenic determinant comprises one or more complexes between a heat shock protein and an antigenic peptide fragment derived from the heat treatment of an extra-cellular pathogenic organisation.

12.A vaccine composition produced by the method of any one of claims 1 to 10.

5 13.A vaccine composition as claimed in either of claims 11 or 12, characterised in that the composition also contains an adjuvant for the immunogenic determinant.

10 14.A vaccine composition as claimed in any one of claims 11 to 13, characterised in that it is an aqueous composition.

15 15.A vaccine composition as claimed in any one of claims 11 to 14 substantially as hereinbefore described in any one of the Examples.

20 16.A method for treating an animal with a vaccine, characterised in that it comprises administering a pharmaceutically acceptable quantity of a vaccine composition as claimed in any one of claims 11 to 15 sufficient to elicit an immune response in the animal.

25 17. A method for eliciting an immune response from an animal to infection by an intra-cellular pathogenic organism which method comprises administering a vaccine containing an immunogenic determinant, characterised in that the immunogenic determinant is an SP/antigenic peptide fragment complex produced in situ from the intra-cellular pathogen whose synthesis  
30 is induced by external stress stimuli or by genetic

modification of the pathogen so as to render its synthesis constitutive.